REMARKS

This application has been carefully reviewed in light of the Examiner's action dated March 21, 2006. Claims 1-32 have been cancelled without prejudice, and new Claims 33-55 have been added. Reconsideration and full allowance are respectfully requested.

The Examiner objected to the abstract because it contains reference numbers in parentheses. The abstract has been amended. It is believed that the amended abstract addresses this objection.

The Examiner also rejected the previously pending Claims on the grounds of non-statutory obviousness type double-patenting. Those claims have been replaced with new Claim 33-55, and it is therefore believed that this rejection has been obviated.

The Examiner also rejected various combinations of the previously pending claims under 35 U.S.C. § 102 or 103 as being unpatentable over U.S. Patent No. 6,829,759 by Davis, et al ("Davis") alone or in combination with one of the following: U.S. Patent No. 6,829,759 by Chiu, et al. ("Chiu"), U.S. Patent No. 6,546,406 by DeRose ("DeRose"), and U.S. Patent No. 6,829,759 by Horiguchi, et al. ("Horiguchi"). As noted above, the previously pending claims have been replaced by new Claims 33-55. The new claims are believed to be patentable over the cited patents.

As presented, the claims are directed to a method and apparatus for conversion (e.g., normalization) and classification of input content. More specifically, the invention facilitates electronic communications between first and second data systems where the first data system operates in a semantic environment defined by at least one of linguistics and syntax specific to that first semantic environment. The electronic communication has a machine format and a content, where the content includes human directed information. The invention involves accessing the communication and converting at least a term of the communication between the first semantic environment and a second semantic environment (e.g., normalizing the term). In this regard, it is noted that the term is a part of the human directed content. It will be appreciated that transforming such human directed content is particularly challenging due to the likelihood of idiosyncratic matter or subjective variation, resulting in a high likelihood of conversion ambiguity. The invention further involves associating a classification with either the first term or the converted term of the communication where the classification identifies the relevant term as belonging to the same class as at least one other term based on a shared characteristic. This classification is then used to process the electronic communication under consideration. In many cases, the classification helps to disambiguate the transformation process.

The shared characteristic may be, for example, a related meaning (e.g., a synonym or conceptually related term), a common lineage within a taxonomy system (e.g., an industry-standard product categorization system, entity organization chart, scientific or linguistic framework, etc.), or the like. The communication may be directed to and/or received from the first semantic environment. For example, a communication, such as a search query, may be transmitted from the first semantic environment and include locale-specific information such as abbreviations, proprietary names, colloquial terminology or the like. Such a term in the query may first be normalized or cleaned such that the term is converted to a standardized or otherwise defined lexicon. This may involve syntax conversion, linguistic conversion and/or language translation. The converted or unconverted term is classified, and the associated classification is used to identify information responsive to the query.

Conversely, the communication may be directed to the first semantic environment as by an individual or business consumer seeking product information from a company information system. In such a case, a term may be converted from an external form with the second semantic environment to the first semantic environment. For example, a term of the communication (e.g., 10mm hexagonal alan nut) may be converted to an internal product identifier (name, number, description or the like, e.g., hex nut-A) of the company. The converted or unconverted term is associated with a classification (e.g., metric fasteners), and the classification is used to process the communication (e.g., by constructing a menu, page or screen with product options of potential interest).

It will thus be appreciated that the invention is capable of processing an input by converting (e.g., normalizing) and classifying the input so as to improve a variety of functions such as data matching, publishing or aggregating. In this regard, normalization accounts for differences due to abbreviations, misspellings, differing word choice, etc. Classification provides structure for identifying related items or for resolving ambiguities (e.g., "butterfly" in the term "butterfly valve" is not an insect)

This is readily distinguished from the patents cited by the Examiner. Davis is directed to translation systems for computer programs. See, e.g., the "technical field of the invention" of Davis at col. 1, lines 25-29. Specifically, Davis addresses compatibility issues relating to digital signal processor chips. In this regard, Davis notes that as new DSP chips replace older DSP chips the assembly language used in the new chips is often different from that of the old chips. Thus, the

assembly language programs for the old chips must be rewritten for the new chips. Applicant respectfully submits that Davis does not disclose the claimed subject matter relating to <u>converting and classifying human directed content</u>. In this regard, it is noted that assembled languages are characterized by a high degree of formality and objective rules, thus minimizing any transformation ambiguity.

Chiu is directed to localizing computer software. Specifically, menus, dialog boxes and like resource information of a computer program, such as a web browser, are translated from one human language to another human language. Chiu requires that the resource information be stored in a dynamic link library. To translate the resources, the current version resource DLL is compared by a leverage tool to a resource DLL of a previous version of the program, e.g., a beta version. The current version DLL is also compared to the resource DLL of any translation of the previous version to the target language. The leverage tool then generates a new target language resource DLL. Any content that was previously translated in connection with the previous version is stored. Strings that are not to be translated are locked. Thus, already translated content is reused and locked strings are not translated such that the effort required by a translator is reduced.

Applicant respectfully submits that Chiu does not disclose the claimed subject matter relating to converting and classifying human directed content. Specifically, in Chiu, the DLLs are used to translate specific terms or strings <u>directly from a source language to a target language</u>. It is noted that the actual translation is apparently performed manually in the first instance where the dynamic link libraries merely provide a convenient reference to previously translated information. Chiu therefore does not address the issue of resolving transformation ambiguities via conversion and classification. Thus, neither Davis nor Chiu discloses the claimed subject matter relating to converting and classifying human directed content.

Moreover, it is respectfully submitted that the teachings of Davis and Chiu cannot be properly combined. As noted above, Davis is specifically directed to translating as between different assembly languages of different DSP chips and is thus directed to machine language translation. Chiu is directed to translating certain human directed content of computer programs. In this regard, Chiu specifically requires that "the resource DLL of the current version of the program is first separated from the executable code." Col. 2, lines 59-61. Thus, Davis is specifically limited to machine language and the leverage tool of Chiu is specifically limited to the human directed content. It is therefore unclear how the Davis and Chiu patents could be operatively combined.

DeRose is directed to a client-server computer system for retrieval of electronically published documents. Specifically, DeRose involves translating documents between one <u>mark-up language</u> and another <u>mark-up language</u>. In this regard, a mark-up language provides indications of structure of the documents but excludes streams of display instructions, which are typically found in formatted documents. Thus, elements in a first markup language such as SGML can be mapped to markup elements in another markup language such HTML. Thus, DeRose does not disclose or suggest the claimed subject matter relating to conversion and classification of human directed content and does not address the problems related to transformation of human directed content as discussed above.

Applicant further submits that the teachings of Davis and DeRose cannot be properly combined. As noted above, Davis is specifically directed to translating between different assembly languages associated with different DSP chips. DeRose is directed to translating between different markup languages. Such markup languages specifically exclude graphic display instructions and the like that are found in formatted documents. It is thus unclear how Davis and DeRose could be operatively combined. IN any event, as neither Davis nor DeRose address transformation of human directed content via conversion and classification as claimed, the proposed combination would not yield the claimed subject matter in any event.
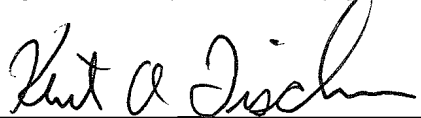
Horiguchi is directed to a translation tool for translating text between first and second human languages. Specifically, Horiguchi involves matching input content such as a phrase to multiple examples of an example database. Thus, in one example provided by Horiguchi, the input sentence "I have a long pencil" is matched to the example structures "I have a pencil" and "I had a long nap." Such matching is accomplished by iteratively comparing the source structure to example structures and implementing a scoring process that involves determining a match cost between a source structure and each source language example feature structure to determine if the match between the two structures is close. The best match may be selected for use in a translation or multiple matches may be combined in this regard. Thus, Horiguchi involves multiple parallel or iterative potential transformation processes together with a scoring process to determine which examples to use in the translation. Applicant therefore respectfully submits that Horiguchi does not disclose the claimed subject matter relating to conversion and classification of human directed content. Accordingly, a combination of Davis and Horiguchi, even assuming such combination is proper, would not yield the claimed subject matter.

In addition, Applicant respectfully submits that the teachings of Davis and Horiguchi cannot be properly combined. As noted above, Davis is directed to translation between different assembly languages associated with different DSP chips. Horiguchi is specifically directed to translating human directed content between first and second languages by using an approach that involves comparison to example structures and scoring. It is unclear how the cited patents could be operatively combined

Based upon the foregoing, Applicant believes that all pending claims are in condition for allowance and such disposition is respectfully requested. In the event that a telephone conversation would further prosecution and/or expedite allowance, the Examiner is invited to contact the undersigned.

Respectfully submitted,

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